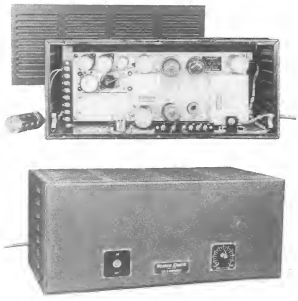
103D AMPLIFIER



GENERAL

The 103D amplifier consists of a 124D amplifier (less mat and nameplates) mounted in a black finished metal cabinet, which also contains a standby relay and other miscellaneous apparatus to permit standby conditions at reduced voltages and instantaneous full power operation on energizing the standby relay. It is designed for use in high quality paging systems employing dynamic microphones.

ELECTRICAL CHARACTERISTICS

Gain - - - - - - - - 107 db.

Source Impedance - - 15 to 60 ohms. 30 ohms nominal. May be reconnected for 60 to 250 ohms. 120 ohms nominal.

Internal Input - - - Impedance — High - unterminated input transformer.

Internal Output - - Impedance — 3/4 of nominal impedance.

Load Impedance - - - 1.75, 7.5, 16, 30, 150, and 600 ohms. Also 70-volt loudspeaker distribution line. See OUTPUT CONNECTIONS Table on schematic.

Output Level - - - - +41 dbm (12 watts), 2% total harmonics at 400 cycles. May be reconnected for +42 dbm (20 watts), 5% harmonic content.

Output Noise - - - - 8 dbm (unweighted).

Frequency Response - See Frequency Response Curve.

Gain Control - - - - 35 db continuously variable.

Power Supply - - - - 105-125 watts, 50-60 cycles. Using 12-watt output, 1.1 amperes, 105 watts. Using 20-watt output, 1.25, 125 watts. Battery supply of 44-60 volts for relay. Standby power - approximately 55 watts.

EQUIPMENT CHARACTERISTICS

Dimensions - - - - - 20-5/16" long, 9-1/16" high, 11" deep including controls.

Weight - - - - - - - 40 pounds.

Finish - - - - - - - Black crinkled enamel.

Mounting - - - - - - Desk, shelf, etc.

ELECTRON TUBES

(These tubes are not supplied with the amplifier and must be ordered separately.)

	W.E.		COMMERCIAL
2 - - - - - -	348A	or	6J7 or 6J7G
2 - - - - - -	350B	or	616 or 616G
1 - - - - - -	274B	or	5T4 or 5U4G
1 - - - - - - - - - - - - - - -			1612

REFERENCES

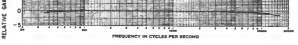
ES-676175 - - - - - Assembly and Stock Lists.

ES0-676179 - - - - - Wiring Diagram.

ESXX-676178 - - - - Schematic.

BSP 024-104-104 - - 124D Amplifier.

BSP 024-104-501 - - 103 and 124-Type Amplifiers.



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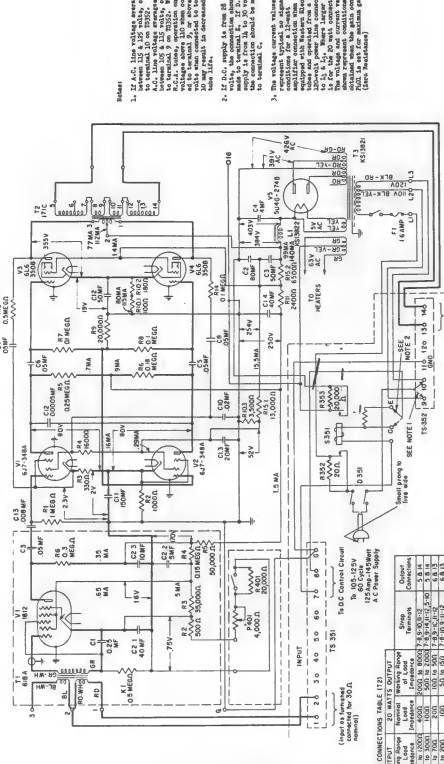
103 D AMPLIFIER
INPUT
To D/C Control Circuit
To 60 Cycle 115 Volt A.C. Power Supply
Small prong to line wire
SEE NOTE 2
600Ω Output
OUTPUT CONNECTIONS TABLE (Z)
Notes:
1. If A.C. line voltage averages more than 125 volts, connect to terminal 10 on TS352. If A.C. line voltage averages between 105 & 115 volts, connect to terminal 9, or above 130 volts, connect to terminal 11. If A.C. line voltage averages between 115 & 125 volts, connect to terminal 10 and recheck in 24 hours. If A.C. line voltage is found to decrease to 105 volts, connect to terminal 9.
2. If D.C. supply is from 28 to 60 volts, the connection should be made to terminal 1. If D.C. supply is from 24 to 30 volts, the connection should be made to terminal 2.
3. The voltage current values should be measured under no signal conditions for a 3-tank amplifier. Amplifiers equipped with Western Electric 130-volt power line connection should be measured with a 130-volt power line connected to the primary of the transformer. For 60 cps connections, the values should be increased by 10 per cent. The values shown represent conditions encountered in normal speech (VOL is set for maximum gain. Loss Readjust)